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General Education Participation and Academic Performance of Students With Learning Disabilities

Students with learning disabilities comprise almost two-thirds of those receiving special education services in secondary schools (Levine and Wagner 2003). The majority of these students spend at least part of their day in a general education classroom (Newman, Marder, and Wagner 2003). National Longitudinal Transition Study-2 (NLTS2) analyses reveal that the percentage of courses students with learning disabilities take in general education classrooms is related to both their academic performance and their social adjustment at school, independent of other differences between students (Blackorby et al. 2003; Marder, Wagner, and Sumi 2003). Including students with disabilities in general education classrooms has been found to be related to beneficial outcomes for both students with disabilities (Baker, Wang, and Walberg 1994; Waldron 1997) and their general education peers (Salend and Duhaney 1999; Stainback and Stainback 1996; Staub and Peck 1994). For example, inclusive practices have been found to be related to more appropriate social behavior and higher levels of achievement for students with disabilities, as well as to increased comfort with and awareness of human differences for students in the general population (Baker and Zigmond 1995; Walther-Thomas, Bryant, and Land 1996).

However, having access to the general education curriculum means more than simply being present in a general education classroom; it means that students' "educational programs are based on high expectations that acknowledge each student's potential and ultimate contribution to society" and that "students with disabilities be provided with the supports necessary to allow them to benefit from instruction" (Nolet and McLaughlin 2000, pp. 2, 9). What are the general education classroom experiences of students with learning disabilities? To what extent do they enroll in general education academic courses? What are the characteristics of general education classroom instruction provided to students with learning disabilities? How well do students with learning disabilities perform in their general education classes and on academic assessments?

These questions are addressed in this document, with a focus on secondary school students with learning disabilities.[1] Data from

[1] The terminology for classifying students with learning disabilities who receive special education services that is used here is specified in federal regulations for the implementation of the Individuals with Disabilities Education Act Amendments of 1997 (P.L. 105-17), Sec. 602(3)(A)i.

NLTS2[2] provide a national picture[3] of the general education participation of these students, including their enrollment and experiences in general education classrooms, how their experiences compare with those of their classmates, and their academic performance. Further, comparisons of findings from NLTS2 and the original NLTS[4] reveal changes in general education participation rates for students with learning disabilities from 1987 through 2002.

Instructional Settings of Academic Courses

Most secondary school students with learning disabilities (94 percent) take at least one class in a general education setting in a given semester, with 80 percent taking one or more academic courses in a general education setting.[5]

Students with learning disabilities are more likely to take academic courses in a general education setting in 2002 than they were in the past. Enrollment in academic general education courses is 10 percentage points higher than the rate in 1987.[6] Students show a corresponding 12-percentage-point decline in taking those courses in special education settings.

Secondary school students with learning disabilities are about equally likely to take language arts in general education and special education settings. However, math is more likely to be taken in general education settings (62 percent vs. 43 percent), as are science (74 percent vs. 29 percent), social studies (71 percent vs. 32 percent), and foreign language courses (90 percent vs. 9 percent).

Instructional Practices in General Education Academic Classes

To understand the instructional experiences of students with learning disabilities in general education academic classes, teachers were asked to report the frequency with which they used various practices with a specific student with a learning disability and with their class as a whole.[7]

Access to the general education curriculum. General education academic teachers often modify the curriculum of their courses to accommodate the

[2] The National Longitudinal Transition Study-2 (NLTS2) has a nationally representative sample of more than 11,000 students who were in at least seventh grade and receiving special education services in the 2000-01 school year. More than 1,000 youth with learning disabilities are included in the sample. This sample is designed to represent a total of 1,838,848 youth with disabilities and 1,130,539 youth with learning disabilities (U.S. Department of Education 2002).

[3] Data reported here are population estimates from data weighted to represent students in the learning disability category who attended school in the kinds of districts from which they were sampled.

[4] The National Longitudinal Transition Study was conducted by SRI International (SRI) for the Office of Special Education Programs (OSEP) from 1985 through 1993. SRI is currently conducting NLTS2. For comparisons with NLTS2, statistical adjustments were made to the studies' samples to include only same-age youth. In both samples used in these analyses, 19 percent of youth are 15 through 17, 31 percent are 18, and 50 percent are 19. See Wagner et al. (2005) for additional details on adjustments to the studies' samples and findings regarding changes over time in outcomes of youth with disabilities.

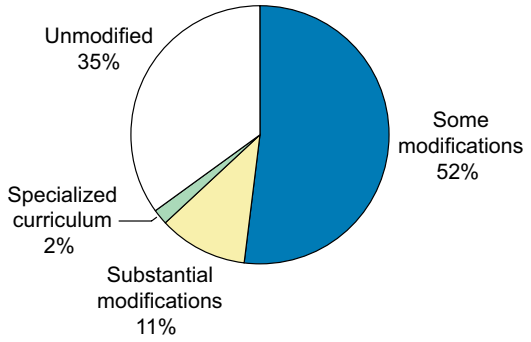
[5] NLTS2 school data were collected in spring 2001; students were ages 14 through 18. Data were obtained through mailed surveys of teachers of students' general education academic classes (for those with that type of class) and of school staff members most knowledgeable about students' special education classes and overall school programs. Unweighted sample sizes for students with learning disabilities range from 366 to 548.

[6] Statistical significance was determined by two-tailed *F* tests. Only differences between groups that reach a level of statistical significance of at least .05 are mentioned in the text.

[7] A typical general education academic class includes 19 general education students and 5 students who receive special education services. Thus, the comparisons made in this section should not be construed as between students with disabilities and nondisabled students. Rather, teachers reported on the classroom experiences of specific students with disabilities and compared them with those of the other students in class, including any other students with disabilities in the class.

individual learning needs of the students with disabilities in their classes. Teachers were asked to indicate the extent of such modifications to the general education curriculum for students with learning disabilities in their classes. Overall, about one-third (35 percent) of secondary school students with learning disabilities receive the standard general education grade-level curriculum used for other students in their academic classes (figure 1). However, more than half of students with disabilities (52 percent) have teachers who report making "some modifications" to the general education curriculum. For another 11 percent, substantial modifications are made to the general education curriculum they receive, and 2 percent receive a specialized curriculum.

Figure 1. Extent of curriculum modification for students with learning disabilities in general education academic classes

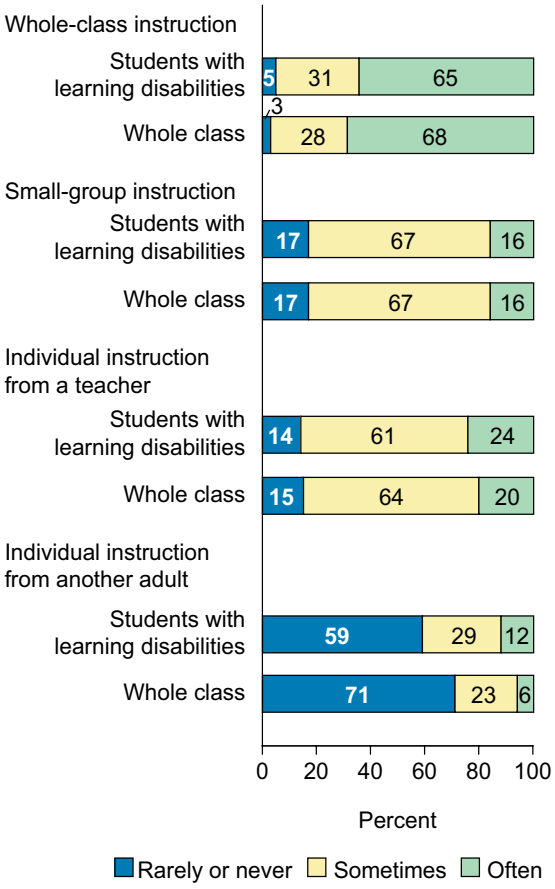


SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 general education teacher survey, 2002.

Instructional groupings. General education academic classes of students with learning disabilities have an average of 24 students per adult. Considerable research suggests that low student-teacher ratios help teachers meet student needs by facilitating effective instruction, communication, and individualization (Achilles and Finn 2000; Gersten and Dimino 2001; Thurlow, Ysseldyke, and Wotruba 1989). Instructional strategies, such as using small-group or individual instruction, can be used to help reduce the student-teacher ratio for some classroom instruction.

Students with learning disabilities for the most part experience each instructional grouping with a frequency similar to that of the whole class (figure 2). For example, both groups experience whole-class instruction more frequently than other groupings; 65 percent of students with learning disabilities are reported by teachers

Figure 2. Instructional groupings of students with learning disabilities and other students in general education academic classes



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 general education teacher survey, 2002.

to experience whole-class instruction often, and 68 percent have teachers who report that their classmates receive whole-class instruction often. Sixteen percent of both groups often experience small-group instruction. Only in the amount of individual instruction received from an adult other than the teacher (e.g., a special education teacher or a personal aide) do students with learning disabilities differ from their class peers. They are twice as likely as the class as a whole to receive instruction often from an adult other than the general education teacher (12 percent vs. 6 percent).

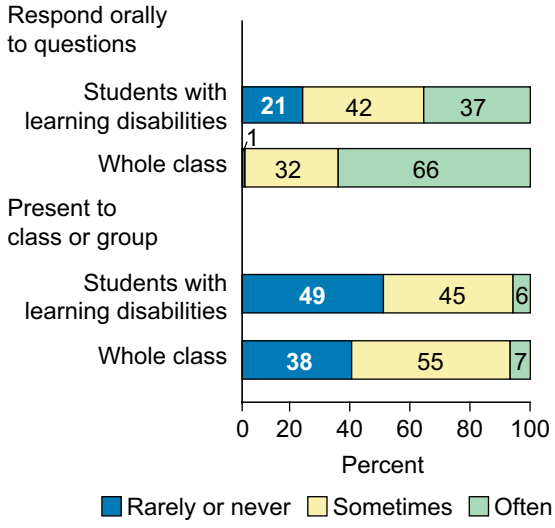
Instructional materials and instructional activities outside the classroom. Textbooks, worksheets, and workbooks are the most frequently used instructional materials in general education academic classes. Teachers of students with learning disabilities report similar frequencies of using print material or computers for students with disabilities (83 percent use print materials and 7 percent use computers frequently) and for their classmates (85 percent use print materials and 7 percent use computers frequently).

Instruction does not occur only within the confines of a classroom; teachers offer students opportunities to extend their learning through the use of libraries, computer labs, or other types of resources at the school, as well as through field trips off campus and through community-based instruction or experiences, such as service-learning projects. However, these types of experiences occur infrequently as part of general education academic classes that include students with learning disabilities; 80 percent to 90 percent rarely or never go on field trips or have community-based instruction or experiences. Similar to many other teacher-directed aspects of the class, students with learning disabilities do not differ from their classroom peers in their participation in activities outside the classroom.

Students' Participation in Classroom Activities

In contrast to teacher-directed aspects of the class, such as instructional groupings or materials used, the classroom participation of students with learning disabilities in general education academic classes differs from the participation of students in their class as a whole (figure 3). With the exception of working with a peer partner or group, teachers report that students with learning disabilities participate less actively than other students in their general education classes. For example, 37 percent of students with learning disabilities are reported by teachers to respond orally to questions often, whereas 66 percent are in classes in which their classmates often respond orally to questions. One in five (21 percent)

Figure 3. Participation of students with learning disabilities and other students in general education academic classes



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 general education teacher survey, 2002.

of students with learning disabilities are reported rarely or never to respond orally to questions, whereas only 1 percent of their classmates are reported to respond to questions so infrequently. Half of students with learning disabilities are reported rarely or never to present to the class, compared with about one-third (38 percent) whose teachers report that classmates respond as infrequently.

Teachers' Perceptions and Expectations

Although their participation in general education academic classes differs somewhat from that of their peers, approximately two-thirds (69 percent) of students with learning disabilities who take general education academic classes have teachers who consider their placement in those classes to be "very appropriate"; most of the rest (24 percent) are considered to have "somewhat appropriate" placements. However, the participation of 7 percent of students with learning disabilities in general education academic classes is considered "not very appropriate" or "not at all appropriate."

Though not all students with learning disabilities are perceived to be appropriately placed, virtually all students with learning disabilities (99 percent) in general education academic classes are expected to keep up with others in their class; however, only approximately three-fourths (78 percent) are reported by their teachers to do so.

Accommodations and Supports Provided to Students With Learning Disabilities

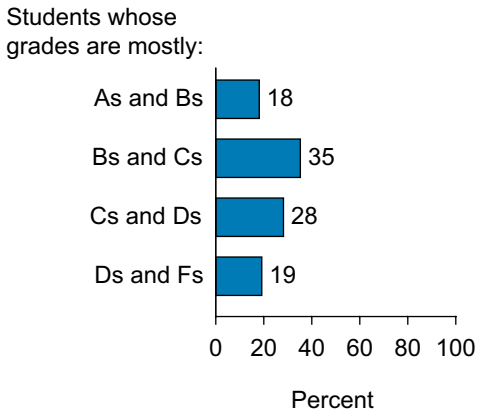
Teachers report that 94 percent of students with learning disabilities receive some type of accommodation or support to enhance their school performance. Additional time to complete tests (76 percent) or assignments (67 percent) are among the most common types of accommodations. In addition, approximately three in five students (63 percent) have their progress followed by special education teachers, and approximately two in five (37 percent) receive more frequent feedback from general education teachers.

Almost one-third (30 percent) have general education teachers who modify grading criteria for students with learning disabilities. Approximately one-fourth of students with learning disabilities receive slower-paced instruction, have tests read to them or are given modified tests, or receive learning strategies or study skills assistance. Approximately one in five students with learning disabilities (18 percent) receive help from teacher aides, instructional assistants, or personal aides, and 11 percent receive tutoring from an adult. Fewer than 10 percent receive support from readers or interpreters, participate in behavior management programs, receive self-advocacy training, or use technology aids such as books on tape or a calculator.

Students' Academic Course Grades

General education academic teachers consider daily class work, homework, test results, and students' behaviors as important factors in determining grades of students with learning disabilities (Newman, Marder, and Wagner 2003). Approximately one in five students with learning disabilities receive academic coursework grades at either end of the grading spectrum—18 percent receive grades characterized as "mostly As and Bs" and 19 percent receive "mostly Ds and Fs" (figure 4). However, most students receive mid-level grades (i.e., "Bs and Cs" or "Cs and Ds").

Figure 4. General education academic course grades of students with learning disabilities



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), Wave 1 general education teacher survey, 2002.

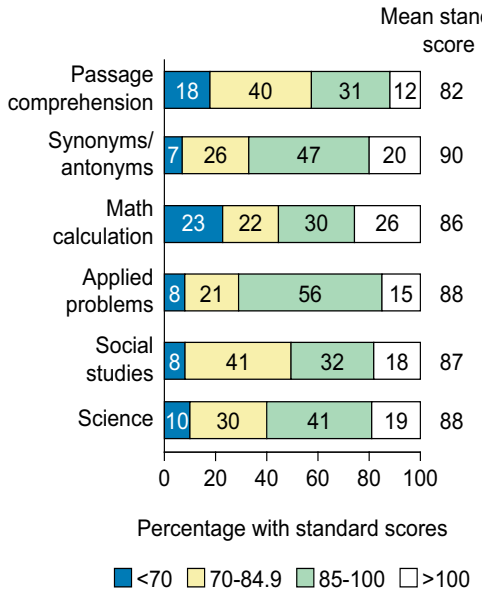
Students' Achievement on Academic Assessments

NLTS2 administered standardized assessments in reading, mathematics, science, and social studies, providing the first nationally representative data on how secondary youth with disabilities are faring academically. Assessments of youth's academic achievement were conducted using six subtests from the research version of the Woodcock-Johnson III (WJ III; Woodcock, McGrew, and Mather 2001).[8]

Many youth with learning disabilities do not fare nearly as well on academic assessments as they do on course grades. Across academic subtests, between 30 percent and 60 percent of youth with learning disabilities score below 85,[9] equivalent to the lowest-performing 15 percent of youth in the general population (figure 5).[10] Although three-quarters or more youth with learning disabilities score below 100 on these subtests, some youth are performing well. From 12 percent to 26 percent score above the norming sample mean across subtests.

Youth with learning disabilities experience the greatest difficulty with passage comprehension. Their mean standard score on this test is 82, compared with mean scores of 90 on the synonyms/antonyms subtest, 88 on the applied problems and science subtests, 87 on the social studies subtest, and 86 on the math calculation subtest.

Figure 5. Performance of youth with learning disabilities on Woodcock-Johnson III research version direct assessment subtests



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Special Education Research, National Longitudinal Transition Study-2 (NLTS2), student assessments, 2002 and 2004.

[8] Youth were eligible for the direct or alternate assessment if they were between 16 and 18 years old, a telephone interview or mail questionnaire had been completed by a parent, and parental consent for the assessment had been provided; 559 youth with learning disabilities were included in the assessments. See Wagner et al. (2006) for descriptions of the direct assessment subtests and the data collection process.

[9] The standard score scale used in the WJ III has a mean of 100 and a standard deviation of 15 in the norming sample.

[10] In the general population, the distribution of test scores on each subtest is equally divided above and below the mean (i.e., 50 percent score above and 50 percent below). Two percent of youth in the general population score below 70, 14 percent score between 70 and 84.9, 34 percent score between 85 and 100, and 50 percent score above 100.

Summing Up

There has been a significant increase in students with learning disabilities participating in general education classes—the typical setting for many academic courses. Most secondary school students with learning disabilities participate in at least one general education class.

The curriculum used in instructing the majority of students with learning disabilities who are in general education academic classes often is modified to some degree. Reports of most other teacher-directed aspects of the class, such as instructional groupings, materials used, and instructional experiences outside the classroom, are largely the same for students with learning disabilities as for their classmates.

The similarity of experiences of students with learning disabilities and their peers in general education academic classes with regard to teacher-directed aspects of the class contrasts sharply with the differences between the groups in their participation in classroom activities. Students with learning disabilities are consistently reported to be less likely to participate in their general education academic classes than are their classmates.

Despite these differences in students' behaviors in class, most students with disabilities have teachers who report that their placement in the class is "very appropriate." Further, almost all are expected to keep up with the rest of the class. To help them keep up, almost all students with learning disabilities are reported to receive some type of accommodation, support, or learning aid.

The majority of students receive passing grades in their general education academic courses; however, they fare less well on standardized academic assessments. Three-quarters or more of youth with learning disabilities score below the norming sample mean across the assessment subtests administered in NLTS2. Specifically, youth with learning disabilities experience the greatest difficulty with reading comprehension.

This is the second in a series of NLTS2 fact sheets focusing on the experiences and outcomes of youth in a specific disability category. Fact sheets and other products from NLTS2 are made available on the study's website: www.nlts2.org.

References

Achilles, C.M., and Finn, J.D. (2000). *The Varieties of Small Classes and Their Outcomes.* Paper presented at Combined National/International Conference of the U.S. Department of Education and Temple University's Laboratory for Student Success, Washington, DC.

Baker, E.T., Wang, M.C., and Walberg, H.J. (1994). The Effects of Inclusion on Learning. *Educational Leadership, 52*(4): 33-35.

Baker, J.M., and Zigmond, N. (1995) The Meaning and Practice of Inclusion for Students with Learning Disabilities: Themes and Implications From the Five Case Studies. *Journal of Special Education, 29*(2): 163-180.

Blackorby, J., Chorost, M., Garza, N., and Guzman, A.M. (2003). The Academic Performance of Secondary School Students With Disabilities. In M. Wagner, C. Marder, J. Blackorby, R. Cameto, L. Newman, P. Levine, and E. Davies-Mercier, *The Achievements of Youth With Disabilities During Secondary School. A Report From the National Longitudinal Transition Study-2 (NLTS2).* Menlo Park, CA: SRI International.

Gersten, R., and Dimino, J. (2001). The Realities of Translating Research Into Classroom Practice. *Learning Disabilities Research & Practice, 16*(2): 120-130.

Levine, P., and Wagner, M. (2003). Secondary School Students' Experiences in Special Education Classrooms. In M. Wagner, L. Newman, R. Cameto, P. Levine, and C. Marder, *Going to School: Instructional Contexts, Programs, and*

Participation of Secondary School Students With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2). Menlo Park, CA: SRI International.

Marder, C., Wagner, M., and Sumi, C. (2003). The Social Adjustment of Youth With Disabilities. In M. Wagner, C. Marder, J. Blackorby, R. Cameto, L. Newman, P. Levine, and E. Davies-Mercier, *The Achievements of Youth With Disabilities During Secondary School. A Report From the National Longitudinal Transition Study-2 (NLTS2).* Menlo Park, CA: SRI International.

Newman, L., Marder, C., and Wagner, M. (2003). Instruction of Secondary School Students With Disabilities in General Education Academic Classes. In M. Wagner, L. Newman, R. Cameto, P. Levine, and C. Marder, *Going to School: Instructional Contexts, Programs, and Participation of Secondary School Students With Disabilities. A Report From the National Longitudinal Transition Study-2 (NLTS2).* Menlo Park, CA: SRI International.

Nolet, V., and McLaughlin, M. (2000). *Accessing the General Curriculum: Including Students With Disabilities in Standards-Based Reform*. Thousand Oaks, CA: Corwin Press.

Salend, S.J., and Duhaney, L.G. (1999). The Impact of Inclusion on Students With and Without Disabilities and Their Educators. *Remedial and Special Education, 20*(2): 114-127.

Stainback, S., and Stainback, W. (1996). Rationale for Inclusive Schools. In S. Stainback and W. Stainback (Eds.), *Inclusion: A Guide for Educators.* Baltimore: Paul H. Brookes Publishing.

Staub, D., and Peck, C.A. (1994). What Are the Outcomes for Nondisabled Students? *Educational Leadership, 52*(4): 36-40.

Thurlow, M.L., Ysseldyke, J.E., and Wotruba, J.W. (1989). State Recommended Student-Teacher Ratios for Mildly Handicapped Children. *Remedial and Special Education, 10*(2): 37-42.

U.S. Department of Education. (2002). *To Assure the Free Appropriate Public Education of All Handicapped Children.* Twenty-Fourth Annual Report to Congress on the Implementation of the Individuals With Disabilities Education Act. Washington, DC: U.S. Government Printing Office.

Wagner, M., Newman, L., Cameto, R., and Levine, P. (2005). *Changes Over Time in the Early Postschool Outcomes of Youth With Disabilities.* Menlo Park, CA: SRI International.

Wagner, M., Newman, L., Cameto, R., and Levine, P. (2006). *The Academic Performance and Functional Achievement of Youth With Disabilities.* Menlo Park, CA: SRI International.

Waldron, N.L. (1997). Inclusion. In G.G. Bear, K.M. Minke, and A. Thomas (Eds.), *Children's Needs II: Development, Problems and Alternatives*. Bethesda, MD: National Association of School Psychologists.

Walther-Thomas, C.S., Bryant, M., and Land, S. (1996). Planning for Effective Co-Teaching: The Key to Successful Inclusion. *Remedial and Special Education, 17*(4): 225-264.

Woodcock, R.W., McGrew, K.S., and Mather, N. (2001). *Woodcock-Johnson Tests of Academic Achievement - Research edition.* Itasca, IL: Riverside Publishing.

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The NLTS2 website—www.nlts2.org—provides access to all NLTS2 reports and data tables.